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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,804	12/08/2000	Shigeo Haruki	10873.619US01	2959

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EXAMINER

GEMMELL, ELIZABETH M

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,804

Applicant(s)

HARUKI ET AL.

Examiner

Beth Gemmell

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 and 5 is/are rejected.
- 7) ☒ Claim(s) 3 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Receipt is acknowledged of the amendments filed 17 March 2003.

The indicated allowability of claims 2 and 5 from previous Office Action (paper number 4) is hereby withdrawn in view of recognition that De Zwart et al. (US Patent 6,388,644; hereinafter De Zwart), Welker et al. (US Patent 4,559,469; hereinafter Welker), and Park et al. (US Patent 6,399,287) teach the subject matter of claims 2 and 5. Any inconvenience is regretted. Rejections based on the newly cited references are below.

Claim Objections

Claim 5 is objected to because of the following informalities:

- Line 6: The applicant recites a group of electrodes arranged on the substrate. It is unclear to the examiner, since two substrates are claimed (line 2) which substrate is to include a group of electrodes. The examiner has interpreted the substrate, which includes the group of electrodes, to be the front substrate.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by De Zwart.

Re claim 2: De Zwart discloses, in figure 5 and throughout the disclosure, a plasma display panel (10) comprising plural kinds of phosphor layers emitting different colors of fluorescent light(R,B,G1 and G2), wherein a green phosphor layer is formed of a mixed green phosphor (column 1, lines 47+) obtained by mixing a manganese activated zinc silicate phosphor and having a surface potential with a negative polarity (column 1, line 66; saturating) and a terbium activated rare earth borate green phosphor having a surface potential with a positive polarity (column 2, line 11; non-saturating); wherein the rare earth element is selected from Y or Gd.

Re claim 5: De Zwart further discloses, in figure 1 and throughout the disclosure, a plasma display panel (10) comprising: a pair of substrates positioned opposing each other (1 and 5) with a discharge space provided therebetween (9) where at least the front substrate is transparent; a separation wall disposed on at least one substrate so as

to divide the discharge space into several parts (7); a group of electrodes (2) arranged on the substrate so that discharge is performed in the discharge spaces divided by the separation walls and phosphor layers disposed so as to emit light by the discharge (8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park in view of Welker.

Re claim 2: Park discloses a plasma display panel comprising plural kinds of phosphor layers emitting different colors of fluorescent light, wherein the green phosphor layer may be formed of a manganese activated zinc silicate phosphor or a terbium activated rare earth borate, wherein the rare earth element is chosen from the group consisting of Sc and Y.

Park fails to teach mixing the two phosphors to form a layer of mixed green phosphor.

Welker discloses mixing two green phosphors having different and distinct properties (abstract, lines 2+) to form a layer.

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the plasma display panel disclosed by Park with that of

Welker because in mixing the two green phosphors having different and distinct properties, the mixture of green phosphors produce a green emission more acceptable to the consumer by balancing the deep green phosphors with the yellowish-green phosphors. Therefore significantly improving the overall image produced by the plasma display panel.

Re claim 5: Park discloses the use of the phosphors within a plasma display panel. It is well known in the art for a plasma display panel to include: a pair of substrates positioned opposing each other with a discharge space provided therebetween where at least the front substrate is transparent; a separation wall disposed on at least one substrate so as to divide the discharge space into several parts; a group of electrodes arranged on the substrate so that discharge is performed in the discharge spaces divided by the separation walls and phosphor layers disposed so as to emit light by the discharge.

Allowable Subject Matter

Claims 3 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The best prior art of record teaches a conventional plasma display panel wherein the green phosphor is a mixture of a manganese activated zinc silicate phosphor and a terbium activated rare earth borate, however they fail to teach or fairly

suggest the mixing ratio of the terbium activated rare earth borate to the entire composition in the mixed phosphor to be 10-75 %wt.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Gemmell whose telephone number is (703) 305-1937. The examiner can normally be reached on Monday-Thursday 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

emg
May 28, 2003


ROBERT H. KIM
SUPERVISOR, PATENT EXAMINER
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